ACC.12
61st Annual Scientific Session & Expo
ACC-i2 with TCT innovation in intervention

E636
JACC March 27, 2012
Volume 59, Issue 13

Arrhythmias

ANGIOGRAPHIC AND NUCLEAR IMAGING PREDICTORS OF RESPONSE TO CARDIAC RESYNCHRONIZATION THERAPY (CRT) IN ISCHEMIC CARDIOMYOPATHY

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Monday, March 26, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Device Management in the Heart Failure Patient: CRT and Dyssynchrony
Abstract Category: 18. Arrhythmias: Devices
Presentation Number: 1243-445

Authors: *Abhishek Bose, Jagdesh Kandala, Gaurav Upadhyay, Imad Ahmado, Robert Altman, Lindsay Riedl, Lawrence J. Mulligan, Jagmeet Singh, Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA*

Background: Although scar has been associated with poor outcome after CRT, the impact of coronary artery disease (CAD) severity or ischemia on CRT response remains uncertain.

Methods: A prospective cohort of CRT patients with ischemic cardiomyopathy was evaluated for ischemia and scar with nuclear perfusion imaging. Coronary angiography was used to assess for CAD. Echocardiographic response was evaluated at baseline and 6 months. Time to first heart failure hospitalization or death was assessed over 4 years.

Results: 106 patients were studied: mean age 72 yrs ± 13.5 yrs; mean LVEF 24.4 ± 6.8%; mean LV internal dimension in systole (LVIDs) 53.6 ± 8.5 mm. Patients were categorized by number of diseased vessels and extent of ischemia (i.e. no reversible, moderate, and severe ischemia). Baseline echocardiographic parameters were similar across all groups. Number of diseased vessels were significantly associated with time to first heart failure hospitalization (see Figure 1A) and four-year mortality (3-vessel 50% vs. 2 or 1-vessel disease 23.2%, p = 0.01). Extent of ischemia was also associated with increased heart failure hospitalization (see Figure 1B). Summed rest scores, however, were not predictive of hospitalization or death. Change in LV volumes (i.e., decrease in LVIDs > 15%) were comparable at 6 months across all groups.

Conclusion: In patients with ischemic cardiomyopathy, angiographic disease severity and ischemia add to the prediction of heart failure hospitalization and mortality after CRT.

Figure 1